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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,950	03/30/2001	Andrew J. Thurston	CIS0069US	6592
33031 7590 01/23/2008 CAMPBELL STEPHENSON LLP 11401 CENTURY OAKS TERRACE BLDG. H, SUITE 250 AUSTIN, TX 78758			EXAMINER GANDHI, DIPAKKUMAR B	
			ART UNIT 2117	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/822,950

Applicant(s)

THURSTON, ANDREW J.

Examiner

Dipakkumar Gandhi

Art Unit

2117

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) 30 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-24 and 38-54 is/are allowed.
- 6) ☒ Claim(s) 1,5-8,11,12,25,26 and 31 is/are rejected.
- 7) ☒ Claim(s) 2-4,9,10,27-29,32-37 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Response to Amendment

1. Prosecution for this application is reopened after the Pre-Brief conference has been held based on the Pre-Brief Conference request from the applicant filed on 09/17/2007.

2. Applicant's arguments filed 09/17/2007, have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Thurston (US 7,003,715 B1).

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 of U.S. Patent No. US 7,003,715 B1 teaches a method of decoding an error-correction code in a data signal, comprising the steps of: receiving the data signal at a decoding unit; computing a plurality of syndromes associated with the data signal using the decoding unit; extracting an error polynomial from the data signal, and locating errors within the data signal using the error polynomial.

The claim 9 of U.S. Patent No. US 7,003,715 B1 teaches the extracting an error polynomial based on no more than six equations using no more than two branch decisions.

However the claim 1 and claim 9 U.S. Patent No. US 7,003,715 B1 do not explicitly teach that the extracting an error polynomial comprises generating a plurality of minimum-degree polynomials.

Baggen in an analogous art teaches that the error detecting and correcting properties are determined by the factors of the generator polynomial, i.e., in our case $g(x)=m_0(x)m_1(x)m_3(x) \dots$, where each factor $m_i(x)$ is itself a polynomial. The factors themselves may be minimal and, thus, have the lowest amount of redundancy that is commensurate with the intended distance of the code. The factors may be irreducible or may be a product of irreducible polynomials (col. 4, line 61 to col. 5, line 3, Baggen).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the claim 1 U.S. Patent No. US 7,003,715 B1 with the teachings of Baggen by including additionally that the extracting an error polynomial comprises generating a plurality of minimum-degree polynomials.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that it would provide the opportunity to decode data and correct errors.

5. Claim 5 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 5 + claim 9 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 1 of present application as discussed above. The claim 5 of U.S. Patent No. US 7,003,715 B1 teach that said computing, extracting, and locating steps use a Bose-Chaudhuri-Hocquenghem (BCH) code.

6. Claim 6 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 6 + claim 9 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 1 of present application as discussed above. The claim 6 of U.S. Patent No. US 7,003,715 B1 teach that said computing steps computes $2t$ syndromes, where t is a number of correctable errors which the error-correcting code can correct.

7. Claim 7 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 7 + claim 9 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 1 of present application as discussed above. The claim 7 of U.S. Patent No. US 7,003,715 B1 teach that said computing step uses a linear feedback register to compute the syndromes.

8. Claim 8 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 8 + claim 9 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 1 of present application as discussed above. The claim 8 of U.S. Patent No. US 7,003,715 B1 teaches that said computing step includes the steps of: dividing a received code word in the data signal by a minimal Galois polynomial; and evaluating a remainder from said dividing step.

9. Claim 11 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 9 + claim 12 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 1 of present application as discussed above. The claim 12 of U.S. Patent No. US 7,003,715 B1 teaches that said locating step locates the errors by determining roots of the error polynomial which correspond to error locations.

10. Claim 12 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 + claim 9 + claim 12 + claim 13 of U.S. Patent No. US 7,003,715 B1 in view of Baggen (US 5,539,755).

The claim 1 + claim 9 + claim 12 of U.S. Patent No. US 7,003,715 B1 and Baggen (US 5,539,755) teach claim 11 of present application as discussed above. The claim 13 of U.S. Patent No. US 7,003,715 B1 teaches that said locating step uses Chien's algorithm to search for the error location numbers.

11. Claim 25 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 43 of U.S. Patent No. US 7,003,715 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claim 43 of U.S. Patent No. US 7,003,715 B1 teaches every element of claim 25 of the present application and as such anticipates claim 25 of the present application.

12. Claim 26 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 43 + claim 39 of U.S. Patent No. US 7,003,715 B1.

The claim 43 of U.S. Patent No. US 7,003,715 B1 teaches claim 25 of present application as discussed above. The claim 39 of U.S. Patent No. US 7,003,715 B1 teaches that said using means includes a state machine which asserts control ports on the Galois field multiply accumulators to execute the equations. The examiner would like to point out that the equations are executed to generate the error polynomial (see claim 43 of U.S. Patent No. US 7,003,715 B1).

13. Claim 31 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 42 + claim 43 of U.S. Patent No. US 7,003,715 B1.

The claim 43 of U.S. Patent No. US 7,003,715 B1 teaches claim 25 of present application as discussed above. The claim 42 of U.S. Patent No. US 7,003,715 B1 teaches that said using means uses the Galois field multiply accumulators to calculate a plurality of coefficients of at least one of the minimum-degree polynomials.

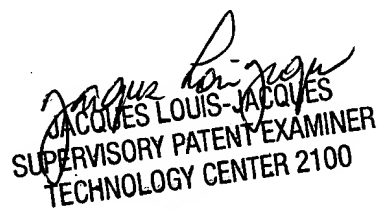
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dipakkumar Gandhi whose telephone number is 571-272-3822. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dipakkumar Gandhi
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